

for use in nonaqueous electrolyte secondary batteries, in which  
a content of a coarse particle having a particle diameter of 30  
 $\mu\text{m}$  or more is 1 vol.% or less, and a content of a high density  
particle having a density of  $7 \text{ g/cm}^3$  or more is 1000 ppm or less  
5 by mass.

[0021] A positive electrode active material of the present  
invention for secondary batteries further comprises 1 vol.% or  
less of a fine particle having a particle diameter of  $0.5 \mu\text{m}$  or  
less, and 1000 ppm or less by mass of a low density particle having  
10 a density of  $2.5 \text{ g/cm}^3$  or less.

[0022] A method of manufacturing a positive electrode active  
material of the present invention for secondary batteries, in  
manufacturing a powdery positive electrode active material by  
mixing raw material powders of the positive electrode active  
15 material for secondary batteries with a desired ratio and  
sintering this mixture, by making use of the difference of  
resistance force due to the particle diameter or the density of  
the particle constituting the powdery positive electrode active  
material, the simultaneously separating and removing a coarse  
20 particle and a high density particle from the powdery positive  
electrode active material is implemented so that the coarse  
particle having a particle diameter of 250% or more relative to  
an average particle diameter of powdery positive electrode active  
material, and the high density particle having a density of 120%  
25 or more relative to an average density of the powdery positive  
electrode active material, may be simultaneously removed.

[0024] A manufacturing method of the present invention of positive electrode active material is implemented, for instance, so that a fine particle having a particle diameter of 50% or less relative to the average particle diameter of the powdery positive electrode active material, and a low density particle having a density of 75% or less relative to the average density of the powdery positive electrode active material, may be simultaneously removed from the powdery positive electrode active material.

[0025] A nonaqueous electrolyte secondary battery of the present invention comprises a positive electrode, which includes a positive electrode active material consisting essentially of a Li containing composite metal oxide powder and of which content of a coarse particle having a particle diameter of 600% or more relative to an average particle diameter of the composite metal oxide powder is 1 vol.% or less, and of which content of a high density particle having a density of 150% or more relative to an average density of the composite metal oxide powder is 1000 ppm or less by mass; a negative electrode disposed so as to face, through a separator, the positive electrode; a battery case, which accommodates the positive electrode, the separator, and the negative electrode; and a nonaqueous electrolytic solution filled in the battery case.

[0026] Another nonaqueous electrolytic solution secondary battery of the present invention comprises a positive electrode, which includes a positive electrode active material consisting

material recovered and reproduced from waste electronic components or waste material produced in the manufacturing process of the electronic components; the reproduced powdery electronic functional material contains 1% or less by volume of  
5 finer particles, of which particle sizes are 15% or less with respect to the average particle size of the powder, and 1000 ppm or less by mass of lower density particles, of which densities are 50% or less with respect to the average density of the powder.

[0036] A reproducing method of electronic functional material  
10 of the present invention includes recovering the electronic functional material from waste electronic components or waste material produced in the course of manufacturing the electronic components; and reproducing the powdery electronic functional material by refining the recovered electronic functional  
15 material; wherein in the course of refining the recovered electronic functional material, by making use of the difference of the resistance force due to the particle sizes and the densities of the particles constituting the powdery electronic functional material, the simultaneously separating and removing the coarser  
20 particles and the higher density particles from the powdery electronic functional material is implemented so that the coarser particles, of which particle sizes are 250% or more with respect to an average particle size of powdery electronic functional  
25 material, and higher density particles, of which densities are 120% or more with respect to an average density of the powdery electronic functional material may be  
simultaneously removed.

[0038] In the reproduction method of the present invention of the electronic functional material, the separating/removing process is performed further so that the finer particles, of which particle sizes are 50% or less with respect to an average particle size of the powdery electronic functional material, and the lower density particles, of which densities are 75% or less with respect to an average density of the powdery electronic functional material may be simultaneously removed from the powdery electronic functional material.

10 [0039] Another reproducing method of the present invention of electronic functional material includes recovering the electronic functional material from waste electronic components or waste material produced in the course of manufacture of the electronic components: and reproducing the powdery electronic functional material, the coarser particles and the higher density particles are simultaneously separated and removed from the powdery electronic functional material.

Brief Description of the Drawings

20 [0040] Fig. 1 is a sectional view showing an example of